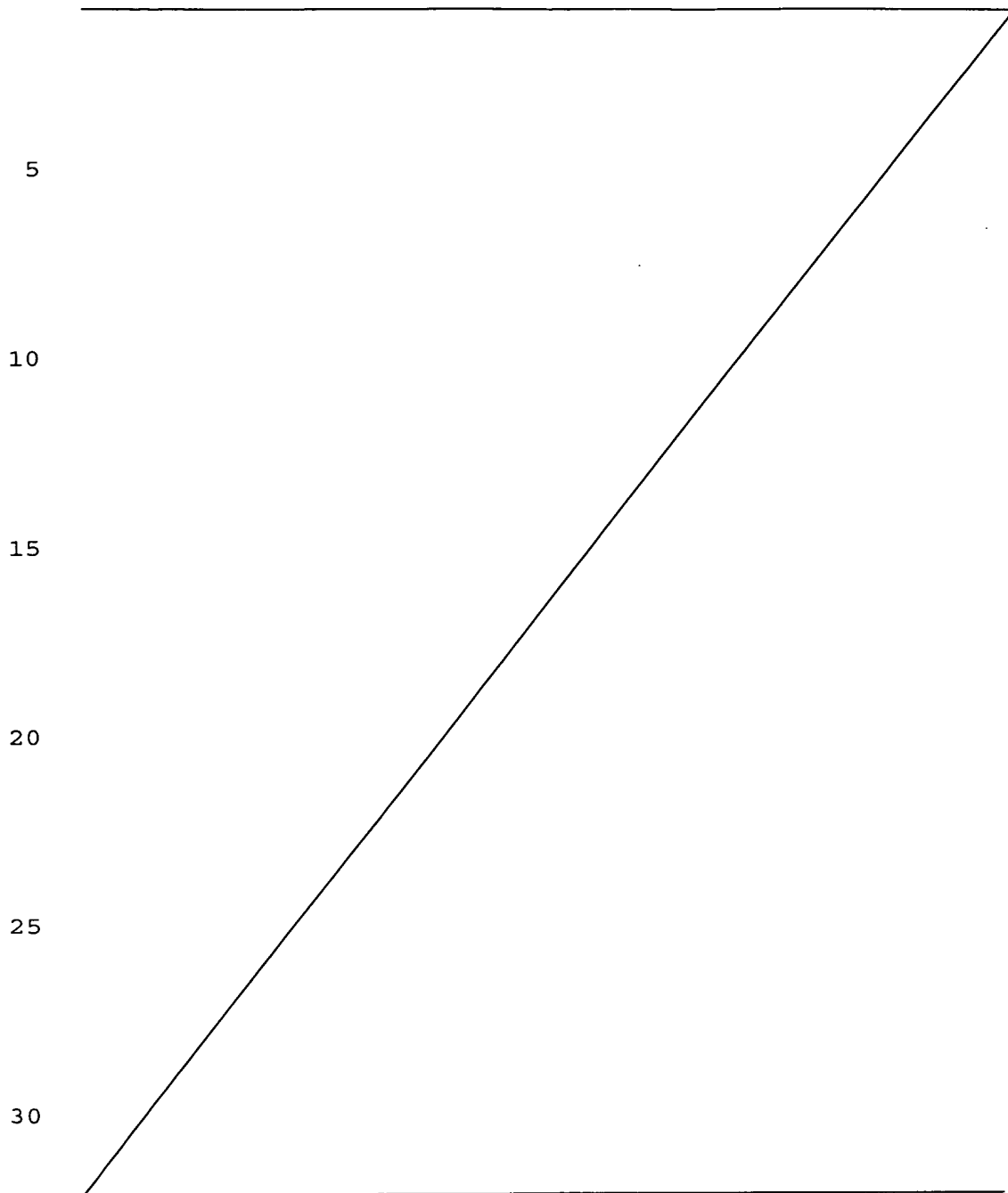


P036650/WO/1

PCT/EP2004/006093



DE 198 43 825 A1 discloses a suspension arm, which is  
produced from a tubular body, which in a first step of  
the method is initially preformed at one end by means  
of a cold-forming process in order to produce a  
journal-shaped shoulder, the journal-shaped shoulder

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being formed and then bent towards this end before the shape of the suspension arm is formed by means of hydroforming. The journal-shaped shoulder is formed separately from the shape of the suspension arm.

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The generic US 6,149,198 A1 discloses a control arm arrangement, which comprises hollow formed parts, which are formed with varying cross-sections, the formed parts formed by hydroforming being joined to one another. Separate fixing parts such as bearing bushes are welded or soldered onto the formed parts.

US 6,471,226 B1 discloses a chassis part, which comprises at least two hollow formed parts, which are produced by hydroforming. The one formed part has a connecting area, by means of which it is inserted into a corresponding connecting area of the other formed part and connected thereto.

DE 197 20 133 A1 discloses a motor vehicle rear axle in the form of a compound link rear axle, the axle carrier area of which with transitional area is formed by trimming of a by a hydraulic hydroforming process, the workpiece formed in this way then being welded to longitudinal control arms.

The object of the invention is to specify a Watts strut which can be produced to a high quality with low production costs.

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According to the invention the object is achieved by the features of claim 1.

According to the invention a Watts strut is formed by a strut body, produced by hydroforming, which is formed in one piece and is twisted on itself about a longitudinal axis.

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One advantage is that Watts struts can be formed with high precision and have only a relatively low weight. Various joining operations are dispensed with and  
5 problems of corrosion, which can occur with welded parts, are eliminated. These advantages accrue in particular when additional structures, such as a bush for the accommodation of a rubber bearing, are integrally formed in the hydroforming process. A  
10 complex Watts strut geometry is furthermore possible.

Further advantages and developments of the invention are set forth in the description and in the further claims.

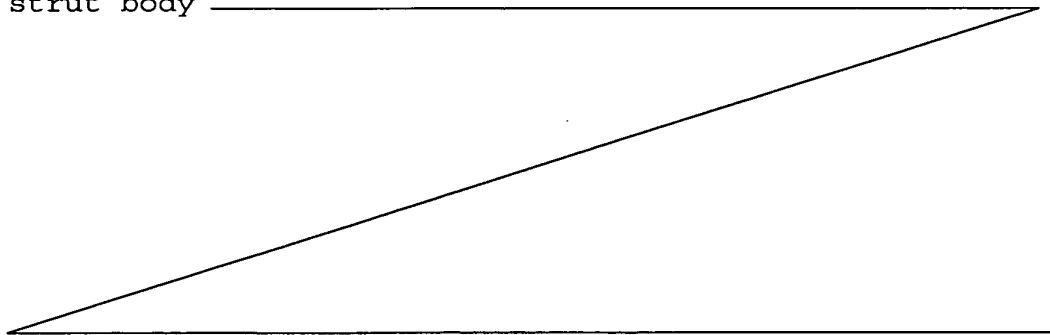
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The invention is explained in more detail below with reference to a drawing, in which:

Fig. 1 shows a left-hand (Fig. 1a) and a right-hand  
20 (Fig. 1b) Watts strut with a suspension link eye and fixing part and

Fig. 2 shows two Watts struts in the fitted position.

25 A left-hand (a) and a right-hand (b) Watts strut are depicted in Fig. 1. The left-hand Watts strut 1 has a long, twisted strut body, at one axial end of which a bearing bush 12 is arranged, and at the other axial end of which a U-shaped end section 11 is arranged. The  
30 strut body



New patent claims

1. A Watts strut having a long strut body with a  
5 bearing bush (12, 22) arranged at one axial end  
thereof, the strut body being produced by hydroforming  
and being formed in one piece, **characterized in that**  
the strut body is twisted on itself about a  
longitudinal axis (L1, L2).
- 10 2. The Watts strut as claimed in claim 1,  
**characterized in that** the strut body in a central area  
has a bend (14, 24), which is separated at an angular  
distance from the longitudinal axis (L1, L2).
- 15 3. The Watts strut as claimed in claim 1 or 2,  
**characterized in that** the strut body at one axial end  
has a bearing bush (12), which is integrally formed in  
the hydroforming process.
- 20 4. The Watts strut as claimed in at least one of  
the preceding claims, **characterized in that** the strut  
body is formed from a light metal.
- 25 5. The Watts strut as claimed in at least one of  
the preceding claims 1 to 3, **characterized in that** the  
strut body is formed from steel.
- 30 6. The Watts strut as claimed in at least one of  
claims 1 to 4, **characterized in that** the strut body is  
formed from a hot age-hardening aluminum alloy.

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